Attachment II
Purpose and Need / Proposed Action

PURPOSE AND NEED

The purpose of the Tennessee Creek Project is to create forest conditions that are more resilient to insects, diseases, and fire and to provide for sustainable watershed conditions. The objectives of this project are:

- Create conditions in treated forest stands that are less favorable for mountain pine beetle infestation for the next 20 – 30 years.
- Lessen the effects of wildfire on National Forest lands and private property due to hazardous fuel loading.
- Reduce the risk that wildfire would negatively affect watersheds, including the municipal watershed reserves and water system infrastructure for the cities of Aurora, Pueblo, Colorado Springs and other local municipalities.
- Promote tree species and age class diversity.
- Salvage beetle-killed lodgepole pine before it loses its marketable value.
- Maintain and enhance threatened, endangered and sensitive species habitats, and other important fish and wildlife habitats over the next 20 – 30 years.
- Produce additional Canada lynx winter foraging and denning habitats and provide connectivity across the landscape over the next 20 – 30 years.

The proposed treatments respond to the goals and objectives outlined in Chapter III of the Land and Resource Management Plan for the Pike and San Isabel Forests (Forest Plan) and help move the project area towards desired conditions in that Plan. Within the Forest Plan, lands are delineated and managed for a particular emphasis or theme known as a Management Area Prescription. The Forest Plan divides the Tennessee Creek project area between the following Management Area Prescriptions:

- Prescription 1B-1 emphasizes providing for downhill skiing on existing downhill ski sites.
- Prescription 2A emphasizes semi-primitive, motorized recreation opportunities such as snowmobiling, four-wheel driving, and motorcycling.
- Prescription 2B emphasizes rural and roaded-natural opportunities.
- Prescription 4B emphasizes the habitat needs of one or more management indicator species.
- Prescription 4D emphasizes maintaining and improving aspen sites.
- Prescription 5B emphasizes forage and cover on winter range.
- Prescription 7D emphasizes production and utilization of small roundwood.
- Prescription 9A emphasizes riparian area management.

PROPOSED ACTION

Adaptive management may be used to implement the project and ensure protection of resources. Operations and treatment areas would be monitored during the life of the project to ensure management and resource protection objectives are achieved. When the monitoring demonstrates that the objectives are not met, changes in the treatment approach would be implemented to achieve the desired results.

Operations would comply with the standards and guidelines listed in the Land and Resource Management Plan, Pike and San Isabel National Forests; Comanche and Cimarron National Grasslands (Forest Plan) as amended.

FOREST TREATMENTS BY VEGETATION TYPE

Lodgepole Pine

Openings would be created over 20 to 25 percent of the treatment areas to provide species diversity, age class diversity in lodgepole pine, reduce dwarf mistletoe, improve big game (elk, deer, and bighorn sheep) foraging habitat, and potentially reduce the possibility of and negative effects from large scale wildfires using the following guidance and constraints:

1. Openings created mechanically would be between 1 and 40 acres in size.
2. Prescribed burn treatment units may exceed 40 acres and may include mechanically-treated and untreated areas.
3. Slash left on-site may be lopped and scattered, piled and burned, broadcast burned, crushed with yarding and harvesting equipment, or disposed of by other means.

The following guidance and constraints would be used in treating lodgepole pine outside of the openings:

1. In lodgepole pine stands, reduce basal area to an average of 80 – 120 square feet per acre. Overall, basal area may differ substantially from one point to another. Some areas may require multiple treatments in order to achieve the basal area goal, without causing blowdown concerns within the stand.
2. Preference would be given to retaining other species (spruce, fir, aspen) over lodgepole pine. The spacing would be variable. Existing snags that are not a hazard, would be retained for cavity-dependent wildlife according to specified snag requirements.
3. Trees would be thinned in a manner to create clumps or cohorts of trees intermingled with small, irregular openings or areas of lower tree density. Pockets of dwarf mistletoe-infected trees and lodgepole interspersed with aspen would be targeted for removal to create openings and provide for species diversity.

4. Slash left on-site would be generally lopped and scattered, piled and burned, or disposed of by other means. Broadcast burning may take place in 25 – 50 percent of thinned areas.
5. Opportunities for firewood gathering by the public would be provided.

Prescribed burn treatments would reduce litter and duff layers, slash produced by treatments, surface fuels, and promote regeneration of lodgepole pine and aspen. Prescribed fire treatments would create openings in addition to the 20 to 25 percent of the treatment area listed above.

1. Before any prescribed burning would take place, appropriate burn plans and smoke management permits that address site-specific details would be completed and approved.
2. Prescribed fire could be used in most areas that have been treated mechanically or by hand, or it could be used as a treatment by itself. The exact burn treatment to be used and their locations would be determined after mechanical vegetation treatments are completed, and would depend on the level of natural and activity fuels in each stand, slope, soil type, and other related factors.

Aspen

The objective of vegetation management in aspen would be to restore the health and vigor of the existing aspen stands and expand their current extent. Treatments would include the removal of competing conifer trees and cutting and/or burning of aspen to regenerate new growth within 20 – 25 percent of the aspen stands. By reducing competition and propagating younger trees, the health and vigor of the stands would be improved; the remaining and new aspen would have increased resistance to insect and disease. In lodgepole pine stands, where there is an aspen component, clearcuts would be used to convert those areas to aspen, increasing the percentage of aspen in the project area.

Prescribed burn treatments may also be used to stimulate propagation of new suckers. Prescribed fire may be used in areas that have been treated mechanically or it could be used as a treatment by itself. The same conditions listed for prescribed fire under lodgepole pine would apply.

Meadows and sagebrush

The objective of vegetation management in meadows and sagebrush would be to maintain the health and vigor of meadows and sagebrush fields and improve forage for wildlife in winter range. Treatments for both meadows and sagebrush would include the removal of encroaching conifer trees. Prescribed burn treatments would only be used in meadows.

Spruce/Fir

In the transition area between lodgepole pine and spruce/fir where the understory is underdeveloped, the objective of vegetation management would be to remove mature lodgepole pine to promote regeneration, thereby increasing foraging opportunities for snowshoe hare (the primary prey of Canada lynx). Individual treatment units would be between 0.1 and 5 acres. Areas that contain both substantial amounts of down, woody debris and high, horizontal cover would be retained.

General Operations

Conventional ground-based logging systems would be used to remove logs from areas that are accessible from existing National Forest System Roads, unclassified roads, or constructed temporary roads. At this time, there is uncertainty whether a National Pollution Discharge Elimination System (NPDES) permit may be required.

WILDLIFE HABITAT IMPROVEMENTS

Aquatic Organism Passage

To improve aquatic organism passage, culverts that prevent movement of aquatic organisms would be reinstalled, removed or replaced with an appropriately sized and type of conveyance (standard culvert, bottomless arch culvert or bridge). Heavy equipment would be used; the appropriate permits would be obtained from the U.S. Army Corps of Engineers. Boulders, trees, and other native materials may also be used during installation or to rehabilitate the area.

Habitat Improvements

To protect and improve riparian ecosystems including boreal toad habitat, non-system routes and dispersed campsites that are near or go through riparian areas may be closed. Treatments include ripping, seeding, bouldering, fencing or other methods that would restrict access. Heavy equipment may be used.

Snags would be created for cavity-dependent wildlife (birds, bats, etc.) in areas where minimum snag requirements are lacking. Trees would be killed through girdling, fire, or other methods to create snags for cavity-dependent species.

Openings would be created through mechanical treatments in the transition area between lodgepole pine and spruce/fir to promote regeneration thereby increasing foraging opportunities for snowshoe hare, the primary prey of Canada lynx (see the Forest Treatments by Vegetation Type section for further details).

Openings would be created or augmented through mechanical treatments or prescribed fire to improve big game (elk, deer, and bighorn sheep) foraging opportunities and habitat where appropriate (see the Forest Treatments by Vegetation Type section for further details).

Encroaching conifers may be removed from sagebrush fields to improve sagebrush habitat for species such as the Brewer's sparrow (see the Forest Treatments by Vegetation Type – Meadows and Sagebrush section for further details).

Nesting platforms may be constructed and placed along the shoreline of Turquoise Lake to provide additional nesting opportunities for raptors (i.e. osprey). To create the nesting platforms, trees may be topped or poles installed in specified locations. Heavy equipment would be used.

WATERSHED IMPROVEMENT PROJECTS

Soil Erosion at Developed Sites

Some developed sites (campgrounds and picnic areas) at both Turquoise Lake and Halfmoon Creek have issues with soil erosion and compaction. Treatments may include ripping (breaking up compaction), contouring, mulching, seeding, and the use of erosion control netting as required. Both hand and mechanical treatments may be utilized.

Halfmoon Creek Watershed Restoration and Habitat Improvements

1. This project would involve restoring a channel reach from the confluence of Elbert Creek and Halfmoon Creek (Mount Massive Trailhead) downstream to the U. S. Geological Service gaging station on Halfmoon Creek. Channel geometry, profile, and dimension would be restored based on the appropriate channel type(s) within this reach. Bank stabilization and the installation of channel and grade control features (i.e. boulders, rip-rap) would occur as needed (for example, in the vicinity of the Elbert Creek Campground).

2. This project would involve stabilizing the road-water crossing just upstream of the confluence of South Halfmoon Creek and Halfmoon Creek; the crossing is over-widened and in need of stabilization. Similar treatments would be applied here as well. Heavy equipment would be used for the project. Boulders, trees, and other native materials may be used for stabilization and restoration. The appropriate permits would be obtained from the U.S. Army Corps of Engineers.

3. This project involves Elbert Creek and Emerald Lake and is intended to re-establish the native flow in Elbert Creek while maintaining the water level in Emerald Lake. Currently, Elbert Creek is diverted in its entirety via a ditch into Emerald Lake. This project would involve the construction of a headgate on Elbert Creek and would require the construction of in-channel structures as previously described. The loss of flow along the ditch route and at the lake would be addressed. The appropriate permits would be obtained from the U.S. Army Corps of Engineers and a water rights analysis completed prior to implementation.

East Tennessee Creek Watershed Restoration and Habitat Improvements

This project would involve restoring the channel reach from the confluence of the two first order streams in the headwaters of East Tennessee Creek to where East Tennessee Creek intersects the National Forest boundary. This reach includes private property. Coordination and support from the private property owners would be critical to the overall success of reclaiming this reach. Implementation on National Forest System lands could occur at a minimum.

Implementation would include: 1) stabilization of road-water crossings; 2) restoration of channel geometry, profile, and dimension based on the appropriate channel type(s) within this reach; and 3) bank stabilization and the installation of channel and grade control features would occur as needed.

Heavy equipment would be used; boulders, trees, and other native materials may be used as needed. The appropriate permits would be obtained from the U.S. Army Corps of Engineers.

Stabilization of the Wurtz Ditch

The Wurtz Ditch is a trans-basin diversion. The project would involve stabilizing the receiving channel throughout its reach with techniques and approvals described previously. Implementation would be conducted by the water utility companies that operate the ditch.

FOREST SERVICE SYSTEM ROADS

To protect riparian areas and improve access to the project area, substantial maintenance may occur on two Forest Service System roads. The roads are Forest Service Road (FSR) 102 (East Tennessee Creek Road) and FSR 109 (Mt. Zion Road). Maintenance may include widening the road, re-routing the road out of riparian areas, and adding culverts and/or low-water crossings. Other roads within the project boundary may also require basic maintenance including: culvert cleaning and/or replacement and water bar/rolling dip reshaping and additions where needed.

NON SYSTEM (UNCLASSIFIED) ROUTE CLOSURES

Specified non-system route closures will take place. See Figure 1 for the map of the non-system routes to be closed. Other non-system routes may be closed if they are adversely affecting any threatened, endangered, or sensitive species habitat, big game winter range or production range, or other aquatic features such as wetlands or riparian corridors. Treatments include ripping, seeding, bouldering, fencing or other methods that would restrict access. Heavy equipment may be used.

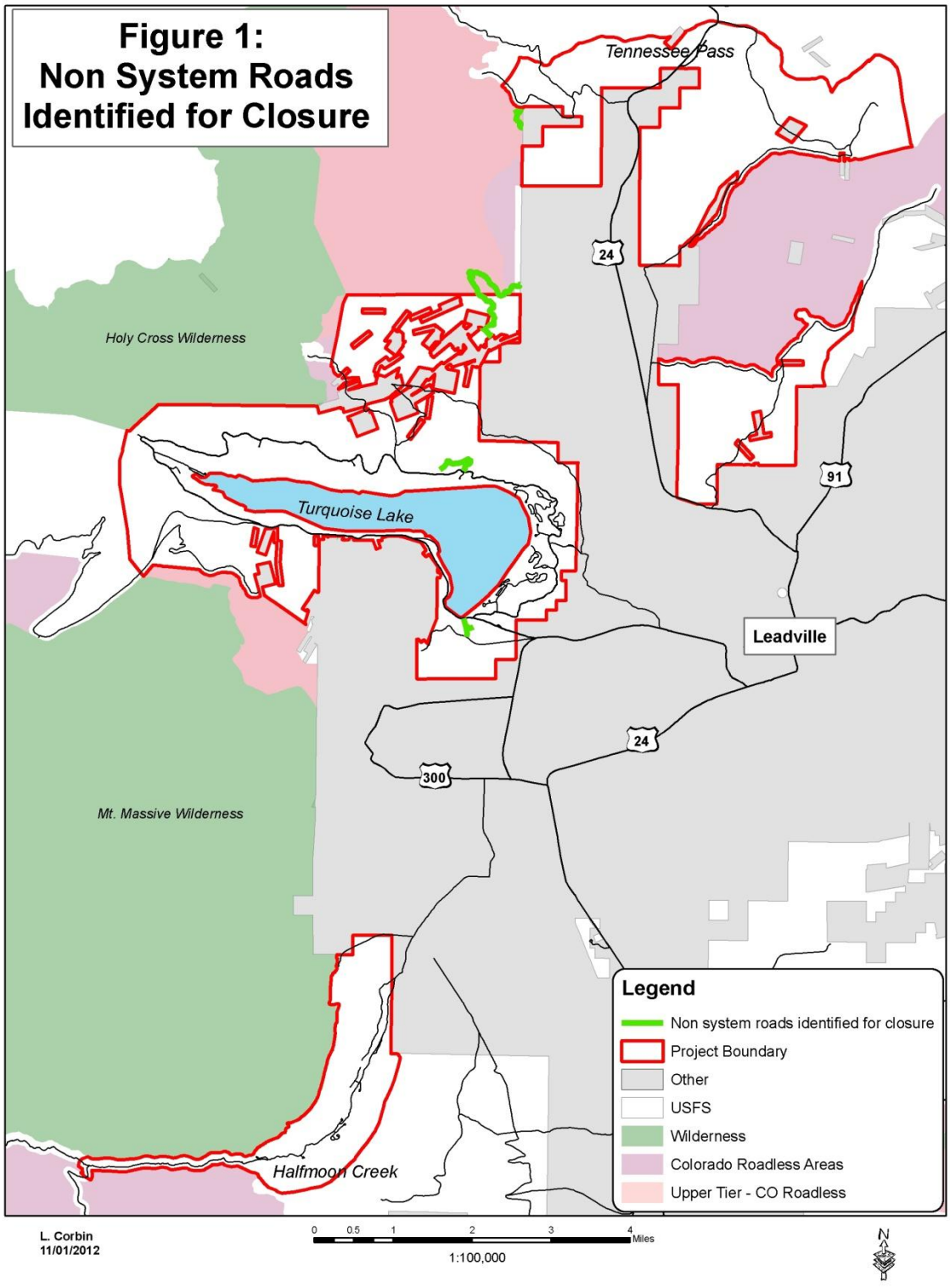
Figure 1:
Non System Roads
Identified for Closure
Tennessee Pass
24
Holy Cross Wilderness
91
Turquoise Lake
Leadville
24
300
Mt. Massive Wilderness
Halfmoon Creek
Legend
Non system roads identified for closure
Project Boundary
Other
USFS
Wilderness
Colorado Roadless Areas
Upper Tier - CO Roadless
L. Corbin
11/01/2012
0 0.5 1 2 3 4 Miles
1:100,000
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DEFINITIONS

Adaptive Management

A system of management practices based on clearly identified, intended outcomes and monitoring to determine if management actions are meeting those outcomes; and, if not, to facilitate management changes that will best ensure that those outcomes are met or re-evaluated. Adaptive management stems from the recognition that knowledge about natural resource systems is sometimes uncertain.